

DETAILED ACTION

1. Claims 1-18 have been presented for examination.

Claims 13-18 are newly presented.

Examiners Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Matthey Shanley, 47074, on 20 February 2009.

The application has been amended as follows:

- i) Replace claim 1 with the following:

A method of analyzing data obtained from well logs taken in a subsurface geological formation having thinly interbedded sandstone and shale layers to determine an expected value of the hydrocarbon pore volume of the formation, comprising:

(a) defining an initial model of the subsurface formation based upon estimates of different bed types and bed-type parameters in the formation, one of said bed-type parameters being aspect ratio, the initial model including a system of log equations for predicting well logs from bed-type parameters;

(b) performing a Monte Carlo inversion to find the ranges of bed-type parameters consistent with the measured well log data, wherein performing the Monte Carlo inversion comprises computing distribution statistics statistical data for interval hydrocarbon pore volume; and

(c) generating a statistical distribution for hydrocarbon pore volume representing the expected value for, and an uncertainty in, the hydrocarbon pore volume from said computing distribution statistics statistical data from said Monte Carlo inversion.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance: claims 1-18 are considered allowable since when reading the claims in light of the specification, none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims, specifically:

The recitation with respect to claim 1 of performing a Monte Carlo inversion to find the ranges of bed-type parameters consistent with the measured well log data, wherein performing the Monte Carlo inversion comprises computing distribution statistical data for interval hydrocarbon pore volume; and (c) generating a statistical distribution for hydrocarbon pore volume representing the expected value for, and an uncertainty in, the hydrocarbon pore volume from said computing distribution statistical data from said Monte Carlo inversion. Step b is seen in the specification of the instant application in Figure 10 as well as paragraph 47 as a number of trial runs utilizing the calculation so the Monte Carlo inversion on disparate data sets. Step c is seen in the specification of the instant application in Figure 11 and paragraph 48 as the aggregation of the data calculated in step b in order to provide a distribution of the data of step b.

The claims are rendered statutory since they require the use of a particular machine, in this case a computer to perform the Monte Carlo inversion which is computationally complex. See also paragraph 40 which recites EXCEL and paragraph 42 which recites EXCEL SOLVER.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saif A. Alhija whose telephone number is (571) 272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-22792279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA

/Kamini S Shah/

Supervisory Patent Examiner, Art Unit 2128

February 20, 2009